What is claimed is:

1. An optical module, comprising:

a substrate;

an optical element that is fixedly secured to said substrate; and

an optical transmission member that is coupled to said optical element and fixedly secured on said substrate,

wherein said substrate is made of a substrate having a through hole between a secured portion of said optical element and a secured portion of said optical transmission member.

2. The optical module according to claim 1, wherein said through hole is set to have a distance W in a direction in which the secured portion of said optical element is connected to the secured portion of said optical transmission member, which is wider than a width that allows parallel light rays having a plane shape, emitted from a laser micrometer, to pass, and a length L in a direction perpendicular to said width W is smaller than the width of said parallel light rays.

3. The optical module according to claim 2, wherein the length L of said through hole is set to not more than 50% of the width of said substrate that is a dimension in the length direction of said through hole.

4. The optical module according to claim 1, wherein said substrate is made of AlN or SiC.

5. The optical module according to claim 1, wherein said optical element is at least one member selected from the group consisting of a light emitting device, a light receiving

device, a lens that is coupled to a light emitting device or a light receiving device, a coupled device between a light emitting device or a light receiving device and a lens, and a light-guide path.

6. The optical module according to claim 1, wherein said optical transmission member is made of an optical transmission path or an optical parts assembled member to be coupled to an optical transmission path.

7. The optical module according to claim 6, wherein said optical parts assembled member is at least one member selected from the group consisting of an assembled member having a collimator lens, an isolator, a light converging lens and a sleeve that are combined into a tube, a combined member of an isolator and a converging lens, and a rod lens.

8. The optical module according to claim 1, wherein said optical transmission member is fixedly secured onto said substrate through an optical transmission member securing base made of glass ceramics, mullite or quartz.

9. The optical module according to claim 1, wherein said optical element is formed of a semiconductor laser chip, and said optical transmission member is formed of an optical fiber.

10. The optical module according to claim 9, wherein said optical fiber is a fiber with a tip-wedge-shaped lens.

11. A method for manufacturing an optical module, in which an optical transmission member is fixedly secured on a substrate provided with an optical element so that said

optical transmission member is coupled to said optical element, comprising the steps of:

(a) shifting said optical transmission member by using a driving mechanism to position-adjust said optical transmission member so as to be coupled to said optical element at an optimal position;

(b) measuring the position, in Y-direction that is a direction orthogonal to the surface of said substrate, of said optical transmission member that has been position-adjusted, by using a laser micrometer;

(c) fixedly securing said optical transmission member onto said substrate through a soldering material;

(d) measuring the position in the Y-direction of said optical transmission member by using the laser micrometer so as to detect an amount of deviation from the measured value obtained in step (b); and

(e) fusing the secured portion of said optical transmission member so that said optical transmission member is shifted by said driving mechanism based on the amount of deviation and again fixedly securing thereto.

12. The method for manufacturing an optical module according to claim 11, wherein said steps of (d) to (e) are further repeated at least one time.

13. A method for manufacturing an optical module, in which an optical transmission member is fixedly secured on a substrate provided with an optical element so that said optical transmission member is coupled to said optical element,

comprising the steps of:

(a) shifting said optical transmission member by using a driving mechanism to position-adjust said optical transmission member so as to be coupled to said optical element at an optimal position;

(b) measuring the position, in Y-direction that is a direction orthogonal to the surface of said substrate, of said optical transmission member that has been position-adjusted, by using a laser micrometer;

(b2) shifting said optical transmission member by using the driving mechanism based on an amount that is preliminarily predicted as an amount of deviation in the Y direction caused by a securing process of said optical transmission member; and

(c) fixedly securing said optical transmission member onto said substrate by using a soldering material.

14. The method for manufacturing an optical module according to claim 13, in succession to said step of (c), further comprising at least one time the steps of:

(d) measuring the position of said optical transmission member in the Y direction by using said laser micrometer so that an amount of deviation from the measured value obtained at step (b) is detected; and

(e) after fusing the secured portion of said optical transmission member, shifting said optical transmission member by said driving mechanism based on said amount of deviation and again fixedly securing said optical transmission

member thereon.

15. The method for manufacturing an optical module according to claim 11, wherein said steps are carried out outside a box member, and after said optical transmission member has been fixedly secured thereto, said substrate including said optical transmission member is placed and secured in said box member.

16. The method for manufacturing an optical module according to claim 11, wherein a substrate having a hole formed therein is used as said substrate, upon measuring said position in the Y direction, measuring the position in X direction that is a direction perpendicular to the Y direction, and also perpendicular to a light-axis direction in which said optical transmission member is coupled to said optical element, and correcting the amount of deviation in the X direction.

17. The method for manufacturing an optical module according to claim 13, wherein a substrate having a hole formed therein is used as said substrate, upon measuring said position in the Y direction, measuring the position in X direction that is a direction perpendicular to the Y direction, and also perpendicular to a light-axis direction in which said optical transmission member is coupled to said optical element, and correcting the amount of deviation in the X direction.

18. The method for manufacturing an optical module according to claim 11, wherein said optical transmission member is formed of an optical fiber with plating and prior to a securing process, said optical fiber is subjected to a

heating treatment.

19. The method for manufacturing an optical module according to claim 11,

wherein a semiconductor laser chip is used as said optical element, an optical fiber is used as said optical transmission member, and an XYZ stage capable of carrying out fine adjustments of not more than 0.1μm in XYZ directions is used as said driving mechanism,

wherein said semiconductor laser chip is APC-driven so that one end of said optical fiber is aligned face to face with said semiconductor chip, and while monitoring an output of a light output measuring device connected to the other end of said optical fiber, said optical fiber is finely moved by said driving mechanism to be adjusted to an optimal position.

20. The method for manufacturing an optical module according to claim 19, wherein in the case when said light output measuring device has a multi-peak property with a plurality of output peaks, said adjustment to the optimal position is carried out so that the output is located between the peaks.